

Appln No. 10/717,035
Reply to Office Action of April 15, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A novel dehairing and fibre opening process for complete elimination of lime and sodium sulfide suitable for all kind of raw materials, comprising:

i. adding water in an amount from about 5% to about 10% w/w, with respect to the weight of soaked hides/skins, and proteolytic enzyme, exhibiting activity at a temperature from about 25°C to about 40°C and a pH from about 7.5 to about 11.0 ~~experimental pH and experimental temperature~~, optionally in the presence of silicate salt, to prepare a paste,

ii. applying the paste, as formed in step (i), on the flesh or grain side of the hides/skins ~~by known method~~,

iii. piling the pasted hides/skins, grain to grain, for a period of not less than 12 hours followed by removing the hair ~~by known method~~ to get dehaired hides/skins,

iv. treating the dehaired hides/skins, as obtained in step (iii), with silicate salt in presence of water, preferably under stirring condition, for a period of not less than 3 hrs, followed by fleshing ~~by known method~~ to get pelt for subsequent post fibre opening processes.

2. (Currently amended) A process as claimed in claim[[s]] 1, wherein the raw materials are selected from the group comprising of skins and hides of goat, sheep, cow and buffalo.

3. Canceled.

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4. (Currently amended) A process as claimed in claim[[s]] 1, wherein addition of the proteolytic enzyme in step (i) is in the range of 0.5-1.5% w/w, with respect to weight of soaked hides/skin.

5. (Currently amended) A process as claimed in claim[[s]] 1, wherein addition of the silicate salt in step (i) is in the range of 0-1.5%, with respect to weight of soaked hides/skin.

Claims 6-7 Canceled

8. (Original) A process as claimed in claim 1, wherein addition of silicate salt in step (iv) is in the range of 5-10% w/w, with respect to the weight of soaked hides/skin.

9. (Original) A process as claimed in claim 1, wherein addition of water in step (iv) is in the range of 50-250% w/w, with respect to the weight of soaked hides/skin.

10. (Currently amended) A process as claimed in claim 1, wherein the ~~known methods are manual and mechanical (machine)~~soaked hides/skins are fleshed manually.

11. (Amended) A process as claimed in claim 1, wherein the proteolytic enzyme used is selected from the group consisting of bacterial protease, fungal protease, ~~either individually or in any combination~~and combinations thereof.

12. (Amended) A process as claimed in claim 1, wherein the silicate salt used is selected from the group consisting of sodium metasilicate, water glass, sodium orthosilicate, ~~either individually or in any combination~~and combinations thereof.

13. (Original) A process as claimed in claim 1, wherein the process eliminates the formation of dry sludge in the effluent.

14. (Currently amended) A process as claimed in claim 1, wherein time required to complete the process of dehairing and fibre opening is 1 to 3 days ~~as compared to 3 to 5 days used in conventional lime-sodium sulphide process.~~

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15. (Currently amended) A process as claimed in claim 1, wherein total solids load is in the range of 50 to 120 kg/t of raw skins/hides ~~as compared to 100 to 200 kg/t of raw skins/hides in the conventional lime-sodium sulphide process.~~

13. (Currently amended) A process as claimed in claim 1, wherein total chemical oxygen demand load is in the range of 20 to 60 kg/t of raw skins/hides ~~as compared to 40 to 100 kg/t of raw skins/hides in the conventional lime-sodium sulphide process~~

17. (Currently amended) A process as claimed in claim 1, wherein the water required in the process is in the range of 2 to 3 l/kg of raw skins/hides ~~as compared to 4 to 8 l/kg of raw skins/hides.~~

13. (Currently amended) A process as claimed in claim 1, wherein the power requirement in the process is in the range of 15 to 45 kWh ~~as compared to 50 to 100 kWh in the conventional lime-sodium sulphide process.~~

19. (Currently amended) A process as claimed in claim[[s]] 1, wherein the process results in significant reduction in total solids and chemical oxygen demand in comparison to effluent derived from conventional dehairing processes.

20. (Currently amended) A process as claimed in claim[[s]] 1, wherein the process produces soft and supple leather.